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Research and Analysis on the Soviet Defense Industries
Currently Underway in OSR

OSR studies the Soviet defense industries for two primary purposes:

- To provide the basis for our estimates future Soviet military forces and capabilities, and
- To increase our understanding of the Soviet weapons acquisition process and the factors which influence it.

This activity absorbs about a fourth of the OSR research effort on the USSR. These resources are located in various parts of the office. The responsibility for estimating and projecting defense industrial output in physical terms--the number of missiles, aircraft, ships, tanks, etc.--lies in our [redacted] 25X1

25X1 That responsibility in value terms is in the [redacted] The organization and management of the weapons acquisition process is followed in the [redacted] 25X1

25X1 Economic analysis of the Soviet defense industries is done in the [redacted] The present focus of our research on the defense industries is outlined below.

Output of the Soviet Defense Industries

Each year we make estimates of current annual production and ten year projections of future annual production and ten year projections of future annual production of military hardware in both physical and value terms. These estimates provide the basis for our projections of the future forces for the various national intelligence estimates. They are the subject of increased interest this year in view of our new appreciation of the high and escalating costs of producing defense goods in the USSR and the tightening resource situation forecast for the

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1980s. This is a large effort which involves various elements within OSR as well as support from several other offices of the DDI.

The physical estimates are made in response to a request by the Secretary of Defense for statistics comparing Soviet and US weapons deliveries and form the basis of our costing effort. The projections of future production are also critical to CIA efforts to project future military forces and capabilities. Most of the analysis is done in our forces divisions. It involves a detailed and continuing all-source analysis of the ongoing weapons programs at individual production facilities and a fitting of projected follow-on programs into these facilities.

The value estimates are derived by applying cost factors to the estimates and projections of physical production. This work is done in our [redacted]

25X1

[redacted] With the exception of ships--which are costed directly in rubles by means of a Soviet costing model--the physical production is valued initially in dollar cost terms and converted to rubles by means of ruble-dollar conversion factors. The dollar costing effort currently entails the bulk of the research time of [redacted] analysts and a sizable external research program with US defense contractors. The ruble-dollar effort is described below under the heading Pricing in the Soviet Defense Industries.

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In addition to the above micro-type analyses, we have underway a project to estimate the total value of Soviet defense industrial output from announced Soviet statistics. One of the projects specifically requested by the Secretary of Defense, it will explore a number of methodologies for estimating defense output from Soviet data and put them under one cover. We expect this project to take the full-time efforts of [redacted] analysts for most of the coming year.

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Organization and Management of Weapons Procurement
Programs in the USSR

We have devoted a considerable effort over the last three years to exploiting [] Soviet defense industries. This has yielded a sizable body of new information on organization, management, and operating practices. This project has as its goal drawing upon this new information to develop a better understanding of the weapons acquisition process in the USSR. It is focused on the institutions involved in that process: Politburo, Defense Council, MOD, (in particular the General Staff) military services, Council of Ministers, VPK, defense industrial ministries, associations and enterprises, GOSPLAN, and GOSSNAB.

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Defense Industrial Capacity

We project continuation of the current magnitude and pace of Soviet defense programs over the next 8 years or so--i.e., a 4-5 percent annual rate of growth in defense spending. This is based upon the identification of new programs in development, continuing escalation in the complexity and, hence, costs of follow-on systems, and the lack of any indicators that Soviet military R&D or production capacity is being diverted to other uses. If this projection is accurate, we should see commensurate expansion of plant and facilities in the defense industries. We currently have in work jointly with [] a project to measure plant expansion activities in each of the defense industrial ministries during the past five years. In the longer term, we plan to develop time series on the growth of [] from 1960 forward. (Most of this work is already done on the shipbuilding and aircraft industries.)

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Manufacturing Practices in the Soviet Defense Industries

For several years now we have been sponsoring engineering cost studies by US industrial firms of available Soviet military equipment. These studies have included comments on the manufacturing procedures and practices employed by the Soviets in producing the equipment. This program has been highly successful, providing

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new insights into Soviet production practices in the Soviet defense industries. These results have been disseminated both in contractor reports and in OSR publications. This effort is continuing and could be expanded should more equipment become available.

OSR currently is sponsoring two additional studies on Soviet defense industry. A detailed survey of industrial planning and production practices in the Ministry of Radio Industry is being prepared by an engineer-economist defector source. The second study is an analysis of the production process in a Soviet plastics plant engaged in solid propellant production being prepared by [REDACTED]

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Pricing in the Soviet Defense Industries

About half of our [REDACTED] is devoted to analysis of pricing in the Soviet defense industries. This includes the development of ruble cost estimating models, estimation of ruble-dollar conversion factors reflecting the comparative efficiency of Soviet and US defense industries, analysis of pricing policies and practices, and a estimating the rate of price inflation in the Soviet defense industries.

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Soviet cost estimating models. The most significant breakthrough in the area of pricing in the Soviet defense industries has been the acquisition of a Soviet model for costing merchant ships. We have adapted this model to naval ships and use it in our defense expenditure estimates. The model, and its adaptation to costing naval ships, is described in a paper entitled *Estimating the Cost of Shipbuilding in the USSR*, which is currently in the publication process. The success of this model has led us into exploring the possibility of developing additional models from Soviet price data. We have developed a less sophisticated model to ruble cost Soviet bulldozers and further models can be developed for other earth-moving and heavy construction equipment.

In addition to their immediate value in improving our estimates of defense output, such models add to our understanding of the cost structure and pricing system. Furthermore, they are an excellent tool for measuring price inflation (discussed below).

Ruble-dollar conversion factors. While we are able to cost ships and a few other lesser items of equipment directly in rubles, the bulk of Soviet military equipment is costed first in dollars and converted into rubles with ruble-dollar ratios. The development of such ratios involves the gathering of a sufficient sample of Soviet prices for military products and estimating the appropriate dollar costs to apply to these items. This work is critical to our estimates of Soviet defense spending and analysis of the output and efficiency of the Soviet defense industries. (Indeed, it was analysis of the substantial body of new Soviet price information that was behind the bulk of the recent increase in our estimates of Soviet defense spending and our appreciation that the Soviet defense industries are far less efficient than we had thought.

The results of this effort will enter into the new defense spending estimates which are currently in preparation. They will also form a basis for more accurately assessing the relative efficiency of defense and civilian industry in the USSR.

Pricing policies and practices. We currently are drafting a paper on Soviet pricing policies and practices. The material for this paper is drawn from open Soviet literature, the body of knowledge we have gained from our ruble-dollar ratio work, and the exploitation of [REDACTED] 25X1
[REDACTED] This paper will examine the pricing policies for civilian and military industrial goods both before and after the 1965 economic reform. It will treat the differences in price formation policies; the relationship between price and cost; and the impact of these factors on relative prices and relative efficiencies.

Price inflation. Accurate price deflators are essential both to our ruble-dollar work and to fitting our defense and GNP estimates to the economic statistics that the Soviets publish. Our best window on this problem in the defense industry area is shipbuilding, where we have excellent price and cost data in addition to the ship costing model. This information indicates substantial price increases resulting from increases in the prices of inputs and changes in pricing policies in the industry. This project is now in the drafting stage. We are currently in the process of exploring similar opportunities in the other defense industries.